

# **SPIRIT 600 S**

## **Bio-stable Semi-Synthetic Metalworking Fluid**

### **DESCRIPTION**

**SPIRIT 600 S** represents the most up-to-date technology in the development of a bio-stable semi-synthetic metalworking fluid. It accomplishes this without formaldehyde releasing biocides, secondary amines, or amines of questionable safety. It is very non irritating to operators, as its basicity is obtained from materials used in the cosmetic industry. It is multi-metal compatible, has high lubricity for both Aluminum and ferrous cutting, yet still has the best ferrous rust protection on the market @ 2% CIC break point. The surfactants are fully non-ionic which allows it to form a stable micro emulsion with water of all qualities, from 0 to 700 ppm, yet very waste treatable by Acid Alum methods.

Above all else it is low foaming. This is achieved by creating a low foam generating formula, as opposed to adding defoamers. Thus the old issue of defoamer depletion has been eliminated. It is excellent for individual sumps as well as central systems.

**SPIRIT 600 S** has the following characteristics and benefits:

- Easily forms a translucent micro-emulsion in all types of water
- Long coolant sump life
- Bio-stable without formaldehyde release
- Contains no nitrites, phenols or di-ethanolamine
- Improved tool life
- No chlorine or sulfur
- Has an effective rust inhibitor
- Cleaner machines
- Excellent work piece visibility
- Greater operator acceptance
- Rapid cooling
- Will not stain aluminum
- Excellent for recycling
- Low foaming in soft water
- Splits out tramp oil quickly

### **APPLICATION**

**SPIRIT 600 S** is recommended for the machining and grinding of ferrous metals and some aluminum. Operations include: milling, turning, drilling, boring, O.D. and I.D. grinding operations including centerless and surface grinding.

**TOTAL Lubricants USA, Inc.**

ISO: 9001:2000 certified

TOTAL Lubricants USA, Inc. with a policy of continuous improvement, reserves the right to change specifications as our technology progresses.

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**Linden, NJ 07036**

5 North Stiles Street  
908.862.9300 800.526.4127

**Rockingham, NC 28379**

709 Airport Road  
800.323.3198

**Knoxville, TN 37914**

3315 Riverside Drive  
800.323.3198

## **SPIRIT 600 S**

### **MIXING RATIOS**

The standard dilution ratio of water to oil is 15:1. **SPIRIT 600 S** may be mixed satisfactorily from 10:1 to 20:1, depending upon the type and severity of the operation. For grinding operations, 20 to 25 parts water to 1 part **SPIRIT 600S** is recommended. The concentration should be adjusted as necessary to maximize performance.

### **WATER HARDNESS TOLERANCE**

**SPIRIT 600 S** will maintain emulsion stability safely in water with 700 ppm hardness.

### **TYPICAL SPECIFICATIONS**

Appearance	Clear amber liquid
Odor	Very mild amine odor
Specific Gravity @ 60 F	1.03
Density @ 60 F, lbs/gal	8.6
Sulfur Content	Nil
Chlorine Content	Nil
pH @ 10 %	9.3
Cast Iron Chip Rust Break Point	2%
Copper Corrosion, D-130	1a-1b
Refractive Index, °BRIX	
10% fresh dilution	6.5

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